

WELL SUMMARY

page 1 of 3Location ID: BW-1-268 Field Representative(s): J. Kirby, C. WerdenNorthing: 230212.08 Easting: 413805.48Date Started: 07-11-88 Date Completed: 12-07-88Drilling Method: Air-foam rotary Drilling Contractor: LarjonDriller: Jim GowerTotal Depth Borehole: 300' Total Depth Well Casing: 294'Total Depth Surface Casing: 80'Diameter Well Casing: 4" Diameter Surface Casing: 8"Length of Bottom Blank: 5.3'Type of Screen: regular strength 0.02 slotScreen Interval: 268.1' to 288.8'Water First Detected: not noticeable Water Level Open Borehole: 205.5'

Water Level Cased Borehole: 210.06' (as of 12/27/88)

Quik-Foam Use: 4 gallons

Estimated Water Use: \approx 3900 gallons water used while drilling
 \approx 2000 gallons est. in mudpit (incl. formation water)
 \approx 1900 gallons water introduced into formation

Well Casing:

| | | | |
|---------------------------|--------|----------------------------|------|
| 4in x 3ft SCD 40 PVC: | 1 | stock SS centralizers: | |
| 4in x 5ft SCD 40 PVC: | | custom SS centralizers: | 1 |
| 4in x 10ft SCD 40 PVC: | 13 | 4"x2' SS locking riser: | 1 |
| 4in x 20ft SCD 40 PVC: | | 4" SS locking cap: | 1 |
| Total SCD 40 PVC pipe: | 133 ft | 4" SS female cap: | 1 |
| 4in x 3ft SCD 5 SS pipe: | | | |
| 4in x 5ft SCD 5 SS pipe: | 2 | 4in x 5ft SCD 10 SS pipe: | |
| 4in x 10ft SCD 5 SS pipe: | 1 | 4in x 10ft SCD 10 SS pipe: | |
| 4in x 20ft SCD 5 SS pipe: | 6 | 4in x 20ft SCD 10 SS pipe: | |
| Total SCD 5 SS pipe: | 140 ft | Total SCD 10 SS pipe: | 0 ft |

Well Completion: Well not completed

100# bags 16/40 sand: 6 bags
100# bags 10/20 sand: bags
100# bags 8/14 sand: bags
100# bags 8/20 sand: 36 bags

94# bags cement: 49 bags

50# bentonite powder: 6 bags

Surface Casing:

94# bags cement: 30 bags

50# bags bentonite powder: approximately 3 bags

Pertinent Field Notes:

7/11/88 Drilled Mud Rotary (12 1/4" bit) to 60'. Used 500 gal. water in vadose zone.

7/12/88 Drilled Mud Rotary (12 1/4" bit) 60'-80'. Set 80' x 8" surface casing. Used 500 gal. water in vadose zone, 30 bags cement for grouting.

7/27/88 Drilled with air-foam rotary (8" bit) 80'-170' in vadose zone. Used 1000 gal. water during drilling.

7/28/88 Drilled with air-foam rotary (8" bit) 170'-300'. Did not find noticeable water. Used 1900 gal. water during drilling.

7/29/88 Static at 254' at 8:00 a.m. Let recharge. Static 232.6 at 6:00 p.m.

7/30/88 Hole logged by Don Pearson of Southwest Surveys. Borehole bailed down to ~293' (200 gallons removed).

8/1/88 9:00 a.m. static at 210.75' below grade. Borehole sampled for nitrosamines (method 607) and Method 624 + Freons. Samples sent to RMA, Arvada, CO. Borehole left open (cap welded on top) until NASA decides to either plug or complete.

8/25/88 Static water level of open borehole = 166' (below grade). Cap rewelded to surface casing.

- 10/13/88 Static water level of open borehole = 165.11' (below grade). Cap rewelded to surface casing.
- 12/04/88 Static water level is 164.4'. Sounded bottom of borehole at 296.75'. Steam-clean and prepare for completion.
- 12/05/88 Bring borehole to desired depth with 16/40 sand, run 4" x 296.4' stainless and PVC well casing, install 8/20 silica sand gravel pack, bail to set gravel pack, pump Benseal/EZ-Mud plug.
- 12/06/88 Benseal/EZ-Mud is $\approx 10'$ thick. Add 4:1 ratio of 8/20 16/40 sand to $\approx 10'$ above static water level. Mix and pour grout (18 bags cement, 2 bags gel).
- 12/07/88 Sounded top of grout at 116'. Mix 31 bags cement and 4 bags gel and grouted to surface.
- 12/13/88 Bail well for development; see monitor well development sheet for details to